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AF/2812

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor:

Chandra V. Mouli

Serial No.: 09/379,092

Filed: August 23, 1999

For: Forming Sidewall Oxide  
Layers for Trench Isolation

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Art Unit: 2812

Examiner: Ron Everett Pompey

Atty Docket: MCT.0042US  
99-0220.00/US

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**SUPPLEMENTAL REPLY BRIEF**

Sir:

This supplemental reply brief responds to the points raised by the Examiner in the Examiner's original Answer and the Examiner's Supplemental Answer.

In both of his answers, the Examiner attempts to make an "about face" from the position taken in the final rejection.

**The Examiner Has Already Conceded That The § 102  
Rejection Does Not Teach The Claimed Invention**

In finally rejecting claim 1 under §102, the Examiner admitted that "Hong is silent on what produces the oxidation enhancement by implanting dopant species into the substrate. Therefore it is not disclosed whether it is crystallographic damage or reaction rate due to the dopant species that is causing the oxidation enhancement". But of course, this goes to the exact

Date of Deposit: June 2, 2004

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point of novelty since claim 1 calls for enhancing the oxidation of said structure beyond what would be expected from crystallographic damage effects. Thus, the Examiner admitted in the final rejection (while inexplicably maintaining the rejection) that he could not say whether or not the reference taught the claimed invention.

**Belated Assertions Of Well Known Art  
Are Unavailing For A § 102 Rejection**

Now in his answer, the Examiner variously asserts that something is well known or inherent. Certainly, it is way too late to make new rejections. The case cited for the proposition that it is the applicant's burden of proof merely states that it is proper to have alternative §102 or §103 rejections. But that is not the case here. Here the Examiner asserted a §102 rejection. What is well known (or not) is irrelevant to the § 102 rejection. See M.P.E.P. 2144.03.

The assertion that something is well known is tardy and to the extent the Board considers it not tardy, it is hereby seasonably challenged. To the extent that the Examiner contends that something is inherent, despite the fact that he admitted the exact opposite in the final rejection, it is unfortunately the Examiner's burden and the Examiner has admitted that he cannot carry the burden. Therefore, the rejection attempted to be reconstituted on appeal is clearly reversible.

**Belated Assertions Of  
Inherency Are Unavailing**

As stated in the Manual of Patent Examining Procedure, the fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish inherency of that result or characteristic. See M.P.E.P. 2112. "Inherency, however, may not be established by probabilities or possibilities". *Id.* "In relying upon the theory of inherency, the Examiner must provide a basis, in fact and/or technical reasoning to reasonably support the determination that the alleged inherent characteristic necessarily flows from the teaching of the applied prior art". *Id.* Here there is no objective or a cogent technical reasoning to support the conclusion. In fact, prior to the appeal, the Examiner himself admitted that there was no way to know how Hong operated. Moreover, the Examiner never relied on inherency before and only asserts this erroneous proposition on appeal. Clearly, the rejection is unsustainable.

## **Belated Assertions Of Waiver Are Baseless**

The Examiner's assertion in the Supplemental Reply Brief that the ability to challenge the statement of well known art has been waived, is surprising since the Examiner never raised any assertion of well known art against the independent claims during prosecution of the application. That being so, if the Examiner were allowed to raise a statement of well known art for the first time on appeal, certainly the Applicant could not have waived that objection by objecting the first time the Applicant could possibly so object -- during the appeal.

It is clear, from the Examiner's own language, that the only assertion of well known art raised during the prosecution was only with respect to certain dependent claims. The only assertion of well known art in particular was set forth in item 1 in the final rejection. The third paragraph of item 1 states that Batra is cited as teaching that the implantation of oxygen as an oxidation enhancement is known.<sup>1</sup> The only possible official notice, if any, is the paragraph that states "Also, the Examiner cites Batra et al. (U.S. 6,127,242) column 2, lines 58-67, discloses implanting oxygen as an oxidation enhancement ... ." The sentence goes on to assert (incorrectly) that "applicant states, in paper no. 8, page 3, final paragraph, that the oxidation enhancing effects of argon are known, these references are cited as pursuant to the rules when official notice is taken."<sup>2</sup> The Examiner concludes, "Therefore, one of ordinary skill in the art would recognize argon or oxygen as art equivalent dopant used to form oxygen enhanced regions."<sup>3</sup>

Referring to the office action before the final rejection, the only taking of official notice was in paragraph 4 where it is stated that "Hong fails to disclose some or all of the limitations of 5-6 and 36-38. However, the Examiner takes official notice that argon or oxygen is art equivalent elements that can be used to form oxygen enhanced region. Therefore, the limitations of claims 5-6 and 36-38 hold no patentable weight." See paper no. 7 at the last page.

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<sup>1</sup> Of course, the cited material in Batra does not even address argon. Moreover, it does not address phosphorous or arsenic, the materials used in Hong and thus, sheds no light on whether Hong achieves enhanced oxidation.

<sup>2</sup> If anything, the fact that Batra uses oxygen rather than phosphorous and arsenic used in Hong, further confirms that common n-type dopants like arsenic and phosphorous only product crystallographic damage effects, leading one to resort to unusual implants such as oxygen or argon to achieve the enhanced effects claimed.

<sup>3</sup> Batra issued after the present application was filed and is assigned to the assignee of the present application. Its ability to show what was well known at the time the application was filed is also questionable, since at that time Batra was not even published.

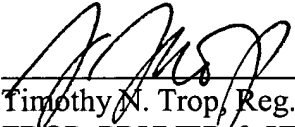
Thus, looking at the history of the application, official notice was only taken with respect to the dependent claims. The Examiner's assertion that the Applicant has waived some type of official notice that the Examiner now contends was made with respect to the independent claims is incorrect. To the contrary, official notice, with respect to the independent claims, has never been asserted and appears to be evolving all the way through the appeal, including the Examiner's original Answer and most recently added to in the Supplemental Examiner's Answer. It is apparent that the Examiner realizes that the original rejection is defective and is now trying to come up with some type of rejection based on waiver of official notice. This simply cannot work because no official notice was ever taken during the prosecution with respect to anything but the dependent claims. This was specifically pointed out in the reply to the final rejection.

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The Examiner's baseless last minute augmentations of the original rejection only confirm that the rejection should be reversed.

Respectfully submitted,

Date: June 2, 2004

  
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